

Quantification Settlement Agreement – Environmental Mitigation Update

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Environmental Mitigation for the QSA

- Mitigation requirements are found in the QSA Water Transfer EIR/EIS, Draft HCP, Biological Opinion and ITP 2081.
- Mitigation is funded by the QSA Joint Powers Authority – member agencies include: IID, SDCWA, CVWD and CDFW.
- Implementation of mitigation measures is the responsibility of IID.

Salton Sea Mitigation Water

- To implement refined Salton Sea Habitat Conservation Strategy, which requires provision of mitigation water to the Salton Sea for the first 15 years of the project to mitigation reductions in inflow and increased salinity due to the transfer of water.
- **Status:** delivery of mitigation water through December 31, 2017. 125 acre-feet still to be delivered in 2018.

Covered Species Baseline Surveys

- Draft HCP covered species specific surveys and studies conducted within the HCP area.
- **Status:** Baseline surveys completed in 2009. Annual marsh bird protocol surveys at the Managed Marsh Complex and Southwestern Willow Flycatcher surveys.

Burrowing Owl Population Studies

- Relative abundance and distribution survey of Burrowing Owls within the HCP area, along IID rights-of-way.
- **Status:** Population studies conducted in 2007-2008. Subsampling conducted in 2011-2012.



Pre-Construction/O&M Inspections

- Conduct visual inspections of canals and drains for covered species and habitat types prior to the start of construction activities and operation/maintenance activities. Mark potential burrowing owl burrows for avoidance by heavy equipment operators or maintenance workers.
- **Status:** pre-inspection activities conducted by IID environmental mitigation staff as soon as an activity is identified.



Managed Marsh Complex

- Create 959 acres of managed marsh habitat by Dec 31, 2019.
- **Status:** Phase I completed in 2009 – 365 acres. Phase II completed in 2014 – 360 acres. Phase III will be constructed in 2019 approximately 300 acres.

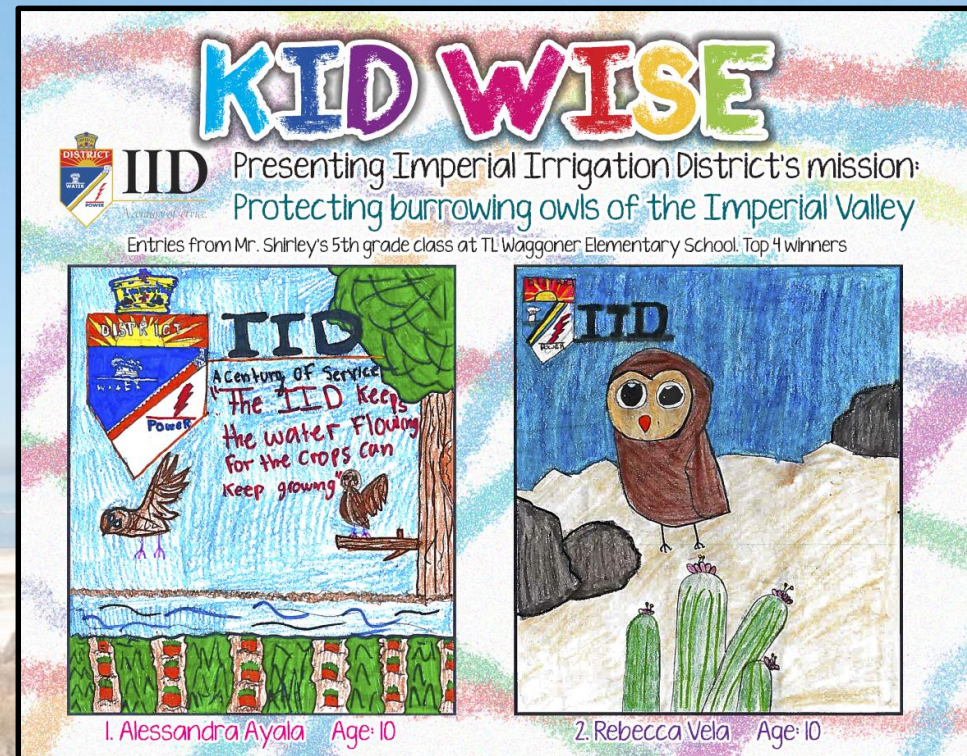


Desert Pupfish Monitoring & Refugium

- Monitoring desert pupfish within drains, selenium toxicity study on pupfish, implement measures to reduce impacts during construction activities, drain interconnection habitat and pupfish refugium.
- **Status:** Annual monitoring of pupfish with CDFW. Selenium toxicity study completed in 2009. Pupfish refugium completed in 2010 and stocked in 2016. Implementation of Selenium Work Plan will begin in 2018.0

Public Outreach

- Implement a farmer and public education program on Draft HCP program.
- **Status:** Annual Design an Ad campaign with local schools, career days, outreach presentations and panels.



Salton Sea Air Quality Mitigation

- Restrict Access to exposed playa, research & monitoring of exposed playa, create or purchase offsetting emissions reductions credits, and implement direct emissions reduction measures on the exposed playa.
- **Status:** Salton Sea Air Quality Monitoring Network set up in 2010. Salton Sea Air Quality Mitigation Program document accepted by IID Board in 2016.

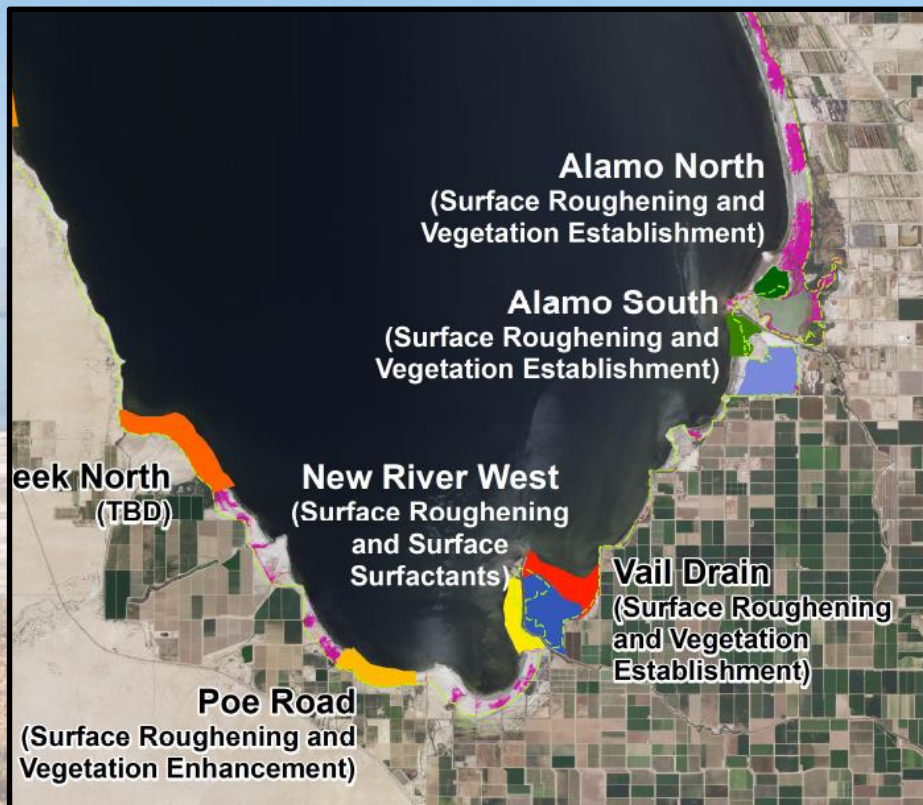
Salton Sea Air Quality Monitoring Network

- 6 research air stations located around the Salton Sea
- Raw data is available on CARB AQMIS website



Pilot Projects

- 1,000 acres of dust control pilot projects implemented



Surface Roughening

- Creation of random roughness to provide quick, waterless, and effective dust control
- Suitable where soils have a higher silt and clay content
- Creates a better soil for vegetation to establish naturally



Surface Roughening



Vegetation Enhancement

- Modifies air flow and traps soil particles
- Beach ridges
 - *Naturally occur as the Sea recedes*
 - *Vegetation colonization*
 - Using shallow groundwater
 - Soils are ideal for vegetation
 - Provides proactive dust control



Vegetation Enhancement

- Vegetation line plot studies around the Sea
- Evaluate performance
 - *Vegetation species, soil, groundwater depth & quality, etc.*
- Enhance the natural process
 - *Collect locally and genetically adapted seed*
 - *Engineer additional beach ridges*
 - *Promote continuous cover, species succession*



Vegetation Enhancement – Wind Protection

- Effects from wind event on May 6-7, 2017
- 12 hours; Average wind speed was ~37 mph



Alamo North Pilot Project



December 2016

Alamo North Pilot Project



August 2017

Monitoring of Pilot Projects

Wed Oct 18 15:31:58 2017
South Tillage Camera 3



Wed Oct 18 15:37:15 2017
South Tillage Camera 2



Monitoring of Pilot Projects

IID - Salton South




Red Hill Bay

< 09-08-17 4:20 PM >

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Monitoring of Pilot Projects





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Air Quality Mitigation

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As part of the 2003 QSA Water Transfer, the Salton Sea Air Quality Mitigation Program (Program) was developed to address air quality mitigation requirements that are associated with transferring up to 300,000 acre-feet of conserved water per year. The transfer of water reduces the volume of agricultural return flow to the Salton Sea, exposing playa and increasing the potential for dust emissions around the Salton Sea. Mitigation measures to address potential dust emissions include: 1) restricting access to exposed playa, 2) researching and monitoring the exposed playa, 3) creating or purchasing offsetting emission reduction credits and 4) implementation of direct emission reduction measures on the exposed playa. The Program's objective is to detect, locate, assess and identify options to mitigate dust from the exposed playa.

In July 2016, The Salton Sea Air Quality Mitigation Program document was accepted by IID's Board of Directors to provide a comprehensive, science-based, adaptive approach to the air quality mitigation requirements. The Program includes steps to characterize emissions potential of the exposed playa as the Salton Sea recedes and provide options to proactively prevent significant dust emissions. The Salton Sea Air Station Network, deployed in 2010, was set up to monitor baseline ambient Particulate Matter 10 concentrations around the Salton Sea area. Two stations located on the west side, two on the east side and one each on the north and south of the Salton Sea measure PM10, PM2.5 and calculated PM coarse. Meteorological instruments including wind speed and direction, ambient temperature, relative humidity and net radiation are also monitored at each site. A series of dust control pilot projects have been implemented on the exposed playa to test methods of controlling dust proactively. In 2015 and 2016 both pilot surface roughening and pilot vegetation enhancement were implemented on the playa. Continued monitoring of the sites using remote cameras and mobile meteorological instruments, as well as on the ground monitoring, inform the air quality team of the pilot projects success as a proactive measure over time.



ALAMO RIVER SURFACE ROUGHENING PILOT PROJECT

Northern View

Western View

Eastern View

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[Salton Sea Air Quality Mitigation Program Document \[PDF\]](#)
[Fact Sheet - Surface Roughening \[PDF\]](#)

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23